Indiana State Department of Health

Sanitary Engineering
2 North Meridian Street
Indianapolis, IN 46204

Indiana Standards for EZFlow Subsurface Trench Soil Absorption Field Technology

These standards apply to EZFlow subsurface trench soil absorption field (SAF) technology which has demonstrated products that meet or exceed Indiana performance criteria (see list of Indiana approved EZFlow subsurface trench SAF products at the end of this document). Manufacturers of geo-synthetic aggregate SAFs products not approved under these standards may submit a proposal for review by the Indiana State Department of Health (department).

I. Approval and Onsite Sewage System Construction Permit

A. The department reviews, approves, and lists proprietary products when a manufacturer demonstrates they meet or exceed the requirements contained in the department's standards for approving new methods, processes and equipment.

B. The department approves the proprietary product listed at the end of this document. [Only the specific configurations listed in this document are approved. If configurations in the manufacturer's product line do not appear on the list, they are not approved for use.]

1. Any changes, modifications, or substitutions of materials or specifications to the listed product must be submitted by the manufacturer and approved by the department prior the change, modification, or substitution.
2. The size of the SAF must equal or exceed a full-sized trench SAF as required in *410 IAC 6-8.1, Residential Sewage Disposal Systems*, or *410 IAC 6-10, Commercial Onsite Wastewater Disposal*, whichever is applicable
3. The listed product, when installed according to the manufacturer's requirements, must withstand the physical forces of the soil sidewalls, soil back-fill, and live loads associated with yard maintenance activities.

C. Before the department or a local health department (LHD) may issue a construction permit for an onsite sewage system incorporating the listed product, the product configuration must be included in the plan submittal.

II. Application Standards

A. The listed product must be designed and installed according to the manufacturer's requirements, in a manner that complies with *410 IAC 6-8.1* or *410 IAC 6-10*, whichever is applicable (including system performance, site evaluation, system selection and system size), this approval, and local ordinances, requirements and procedures.

B. The listed product may be used for subsurface trench:

1. Gravity-flow distribution;
2. Alternating field gravity flow distribution;
3. Flood dose distribution; and
4. Trench pressure distribution.

III. Requirements, Manufacturer and Installers

A. Each manufacturer must have an Indiana specific design and installation manual that has been reviewed and accepted by the department.

1. The manufacturer's Indiana specific design and installation manual, and revisions, must contain procedures for design and installation consistent with the requirements of *410 IAC 6-8.1*, *410 IAC 6-10*, and these standards.
2. The manufacturer, or its sanctioned representative, must provide an Indiana specific design and installation manual to each installer of its products, staff of the department, and staff of LHDs.
3. The manufacturer, or its sanctioned representative, must train and authorize, in writing, each installer of its products, and staff of the department and LHDs, on the design and installation of its products in accordance with its design and installation manual.
4. The manufacturer, or its sanctioned representative, must:
    a. Provide the department and LHD with advance notice for group training courses offered in Indiana
    b. Offer field demonstrations of onsite sewage system installations using the listed product; and
    c. Provide designers and installers ongoing consultation, as needed.
5. The manufacturer, or its sanctioned representative, must provide the department with records, on an ongoing basis, of individuals authorized to design or install onsite sewage systems containing the listed product.

B. Each Installer must:

1. Attend training presented by the manufacturer, or its sanctioned representative, and be authorized, in writing, before they may design or install an onsite sewage system containing the listed product; and
2. Install the subsurface trench onsite sewage system in compliance with the approved plan.

IV. Requirements for design and installation

A. The design and installation of subsurface trench onsite sewage systems containing the approved product must meet the following requirements:

1. Geo-synthetic aggregate bundles containing the four (4) inch distribution pipe and installed in each soil absorption trench must be:
    a. Positioned so that the portion of the bundle with the greatest dimension is located below the distribution pipe, regardless of the hole orientation in the pipe;
    b. Connected pipe-to-pipe throughout the length of distribution lateral; and
    c. Capped with an end cap at the distal end of the distribution lateral.
    d. For trench pressure SAFs:
        1) Pressure distribution laterals must be laid on the bottom of the gravity distribution pipe; and
        2) The holes in the pressure distribution laterals must face up except for at least one downward facing hole for drainage.
2. The geo-synthetic aggregate bundles installed in soil absorption trenches must:
    a. Maintain the complete width and length of the infiltrative surface; and

b. Minimize gaps both along the lengths and ends of geo-synthetic aggregate bundles so that the installation and the performance of the system are not compromised.

3. Geo-synthetic aggregate bundles with torn netting that compromises the integrity of the bundle must be replaced or repaired according to the manufacturer's instructions.
4. Geo-synthetic aggregate bundles may be sized in the field to achieve desired length according to the manufacturer's instructions for cutting and reassembling bundles.
5. The geo-textile fabric used as a barrier material must meet the department's minimum specifications for geotextile non-woven fabric and must extend the full width and length of the trench both before and during backfill operations.

B. For residential onsite sewage systems, a plan submittal with a proposal to replace a SAF and utilize existing onsite sewage system components must include a report, with test procedures and results, demonstrating that any existing onsite sewage system component to be utilized is watertight and in good condition.

C. An onsite sewage system SAF must not be constructed during periods when the soil is sufficiently wet to exceed its plastic limit. **Before installation of the SAF, the installer must perform, and the soils must pass, soil plasticity tests.** Soil plasticity tests include the evaluation of soil samples throughout the SAF site, both at the surface and at the depth of installation, to assure that the plastic limit of the soil is not exceeded. The plastic limit of a soil is exceeded when the soil can be rolled between the palms of the hands to produce threads one-eighth (1/8) inch in diameter that do not easily break apart or crumble.

V. List of Approved EZFlow Configurations

- EZ1203H
- EZ1203T

Approved: January 9, 2004
Effective: January 9, 2004
Revised: October 19, 2006